

REMARKS

Applicants appreciate the Office Action of March 18, 2005, and the Examiner's clear and concise remarks contained therein. The Office Action has been carefully considered, and certain of the claims have been amended to correct informalities or to overcome alleged indefiniteness. The scope of the claims, however, remains unchanged in the belief that the original claims patentably distinguish over all of the art of record. The specification has been amended to add a reference numeral in order to overcome the Examiner's objection to the drawings. As will be discussed in more detail below, none of the art of record, even if combined, shows or suggests the invention claimed by Applicants.

All of the claims (1-17), including independent claims 1, 8 and 15 stand rejected under 35 U.S.C. §102 as being fully anticipated by the patent to Sato (US 4,668,022). This rejection is believed to be in error and is respectfully traversed. The Sato patent is directed toward a problem much different than that solved by Applicants' claimed invention. Sato addresses the problem of preventing actuation of the ABS system caused from the vehicle traversing over rough roads. Sato is not concerned in any way with controlling the ABS in a manner that avoids exciting the natural frequencies of the vehicle. Sato recognizes that errors in wheel speed caused by rough roads can activate the vehicle's ABS, thereby increasing braking distance. Sato solves this problem by sensing the frequency of fluctuations in wheel speed and determining when this sensed frequency exceeds a threshold value (e.g. 10 Hz), indicating that the vehicle is traveling over a rough road. When the threshold value is exceeded, a delay signal is issued that delays actuation of the ABS. Sato merely mentions in passing that the pulsation frequency of the wheels, when traversing rough roads, is substantially equal to the natural frequency of the suspension, but the natural frequency of the suspension does not form part of technique used by Sato to alter the ABS response. The ABS response in Sato is altered based simply on whether or not the pulsation frequency of wheel speed exceeds a fixed, threshold value.

The Examiner asserts that Sato discloses a method for controlling the ABS that includes "altering the selected ABS response to avoid exciting the powertrain at one or more determined frequencies as described in col. 7, lines 7-25." A careful reading of this cited passage reveals that Sato is not concerned in any way with the frequency at which the powertrain is excited by the ABS, much less with altering the ABS response to avoid exciting natural vehicle frequencies. Rather, Sato is limited in its disclosure to simply avoiding a normal response by the ABS to what amounts to a false indication of brake lock-up, i.e., pulsation of the wheel speed above the threshold value.

Sato completely fails to show or suggest important features of the Applicants' claims which represent an important advancement in the art. Sato does not teach "altering the selected ABS response to avoid exciting the powertrain at the one or more determined frequencies", as recited in claim 1, or the limitations in claim 8 calling for:

determining whether the selected ABS response may excite any of the frequencies in the developed set; and,

altering the selected ABS response to avoid exciting any of the frequencies in the developed set.

Similarly, Sato fails to teach a system as recited in claim 15, for controlling an ABS to avoid exciting a natural frequency of a vehicle that includes a memory for storing both a set of vehicle natural frequencies that may be excited by the ABS, and a set of ABS responses to driving conditions. Likewise, Sato fails to disclose the use of a set of programmed instructions for comparing a proposed ABS response with each of the natural frequencies stored in the memory.

Reconsideration of the rejections is respectfully requested in view of the instant amendment and foregoing comments. If the Examiner believes that direct communication with Applicants' attorneys would advance the prosecution of this case, he is invited to telephone the undersigned. Applicants believe this case is in condition for allowance and such action is courteously solicited.

In the event that the present invention as claimed is not in condition for allowance for any reason, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,
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